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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,347	02/25/2004	Chang-Lien Wu	REAP0048USA	2346

27765 7590 06/05/2006

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EXAMINER
MASKULINSKI, MICHAEL C

ART UNIT	PAPER NUMBER
2113	

DATE MAILED: 06/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/708,347	WU ET AL.	
	Examiner	Art Unit	
	Michael C. Maskulinski	2113	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,8,11-20 and 23* is/are rejected.

7)☒ Claim(s) *7,9,10,21 and 22* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/19/04; 5/8/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Non-Final Office Action

Claim Objections

1. Claims 5 and 17 are objected to because of the following informalities: in both claims, "a destination ID (SID)" should be "a destination ID (DID)". Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claim 23 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 23 is indefinite because it depends upon claim 24, which doesn't exist, thus making it unclear as to what limitations claim 23 includes. For purposes of examination, it is assumed that the Applicant intended the claim to be dependent upon claim 22.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-5, 8, 11-17, 19, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Herbst, U.S. Patent 6,792,500 B1.

Referring to claim 1:

a. In column 15, lines 59-62, Herbst discloses dynamic memory allocation of an incoming packet (a first memory including a plurality of entries to store data concerning a packet with an address information, wherein the data concerning the packet is stored in one of the entries according to the address information).

b. In column 46, lines 18-24, Herbst discloses that when a bad memory location is found by a BIST, the address associated with the bad memory location is first located within cFAP. Thereafter, this memory address associated with the inoperable memory location is removed from the middle of the table of available memory addresses and inserted at the top of the table of available addresses in cFAP (and a second memory to store a status of at least one of the entries, wherein the status indicates that whether or not the corresponding entry is defective).

Referring to claim 2, in column 5, lines 66-67 continued in column 6, line 1, Herbst discloses fast Ethernet ports and switching packets to and/or from these ports as may be appropriate (wherein the data concerning the packet includes a host/port relationship).

Referring to claims 3 and 15, in column 18, lines 54-57, Herbst discloses that once the VLAN is identified for the incoming packet, ARL engine performs an ARL table search based upon the source MAC address and the destination MAC address (wherein the address information includes a MAC ID of the packet).

Referring to claims 4 and 16, in column 18, lines 54-57, Herbst discloses that once the VLAN is identified for the incoming packet, ARL engine performs an ARL table search based upon the source MAC address and the destination MAC address (wherein the address information includes a source ID (SID) of the packet).

Referring to claims 5 and 17, in column 18, lines 54-57, Herbst discloses that once the VLAN is identified for the incoming packet, ARL engine performs an ARL table search based upon the source MAC address and the destination MAC address (wherein the address information includes a destination ID (SID) of the packet).

Referring to claim 8, in column 46, lines 18-24, Herbst discloses that when a bad memory location is found by a BIST, the address associated with the bad memory location is first located within cFAP. Thereafter, this memory address associated with the inoperable memory location is removed from the middle of the table of available memory addresses and inserted at the top of the table of available addresses in cFAP (wherein the second memory is at least a register).

Referring to claim 11, in column 5, lines 66-67 continued in column 6, line 1, Herbst discloses that the networking apparatus is a switch.

Referring to claim 12, in column 5, lines 66-67 continued in column 6, line 1, Herbst discloses that the networking apparatus is a router.

Referring to claim 13:

a. In column 46, lines 18-19, Herbst discloses that a bad memory location is found by a BIST (performing a built-in self test (BIST) on a first memory including a plurality of entries).

b. In column 46, lines 18-24, Herbst discloses that when a bad memory location is found by a BIST, the address associated with the bad memory location is first located within cFAP. Thereafter, this memory address associated with the inoperable memory location is removed from the middle of the table of available memory addresses and inserted at the top of the table of available addresses in cFAP (marking a second memory to indicate a status of at least one of the entries, wherein the status is for indicating whether the corresponding entry is defective; finding an entry of the first memory according to an address information of a packet; and checking the second memory to determine whether the entry corresponding to the address information of the packet is defective or not).

Referring to claim 14, in column 19, lines 7-10, Herbst discloses that if the address is not found, then the ingress submodule will set the packet to be sent to all ports (broadcasting the packet if the entry corresponding to the address information of the packet is defective).

Referring to claim 19, in column 19, lines 1-10, Herbst discloses that the ingress submodule reads the packet to determine the source MAC address and the destination MAC address. The ingress submodule performs the lookup of appropriate tables within

ARL/L3 tables, and VLAN table, to see if the destination MAC address exists in ARL/L3 tables; if the address is not found, but if the VLAN IDs are the same for the source and destination, then ingress submodule will set the packet to be sent to all ports (comparing the address information of the packet with a content of the corresponding entry of the first memory if the corresponding entry of the first memory is not defective; forwarding the packet to a specific port according to the content of the corresponding entry of the first memory if the comparison yields a match; and broadcasting the packet if the comparison does not yield a match).

Referring to claim 20, in column 19, lines 12-14, Herbst discloses that the source MAC address of the incoming packet is "learned", and therefore added to an ARL table within ARL/L3 table (storing data concerning the packet into the corresponding entry of the first memory if the comparison does not yield a match).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 6 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herbst, U.S. Patent 6,792,500 B1.

Referring to claims 6 and 18, in column 18, lines 54-61, Herbst discloses the use of a MAC address corresponding to memory. However, Herbst doesn't explicitly

disclose that the relationship between the address information of the packet and the corresponding entry of the first memory is determined by a hashing scheme. The Examiner takes Official Notice that is well known in the art of memories to use a hashing scheme to determine the corresponding entry. It would have been obvious to one of ordinary skill at the time of the invention to include a hashing scheme into the system of Herbst. A person of ordinary skill in the art would have been motivated to make the modification because "hash searches are highly efficient because the hashing enables direct or almost direct access to the target element" (Microsoft Computer Dictionary, Fifth Edition, page 248).

Allowable Subject Matter

8. Claims 7, 9, 10, 21, and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Claim 23 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited prior art is related to routers and the routing of packets via MAC addresses.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Maskulinski whose telephone number is (571) 272-3649. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert W. Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael C Maskulinski
Examiner
Art Unit 2113